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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,298	12/31/2003	Kyung-Hoon Kim	51876P560	9780

8791 7590 08/23/2005

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EXAMINER

COX, CASSANDRA F

ART UNIT	PAPER NUMBER
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2816

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/749,298

Applicant(s)

KIM, KYUNG-HOON

Examiner

Cassandra Cox

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Foss et al. (U.S. Patent No. 6,314,052) in view of Woodman Jr. (U.S. Patent No. 6,349,122).

1. In reference to claim 1, Woodman discloses in Figure 6 a delay line unit (54) comprising: a first delay line (delay stages 1-32) having a plurality of first unit delays (the first 32 delay stages 54a), each first unit delay having a first delay (one-nano second each, see column 9, lines 15-20), for delaying a clock signal; a second delay line (delay stages 33-36) having a plurality of second unit delays (18 stages 33-50), each second unit delay having a second delay (two-nano seconds each); a third delay line (delay stages 50-78) having a plurality of third unit delays (wherein each unit delay includes two delay stages 54a having a two-nano second delay each for a total of four-nano second delay in each unit delay) wherein the first delay is shorter than the second delay, and the second delay is shorter than the third delay. Woodman does not show the delay line used in a delay locked loop and delaying the clock signal if a delay locking operation is not achieved in the first delay line, and for delaying the clock signal if the

Art Unit: 2816

delay locking operation is not achieved in the second delay line. However, it is well known that delay lines are used in delay locked loops and Foss discloses a delay locked loop having a delay line with selectable outputs wherein the clock signal is delayed if a delay locking operation is not achieved in the first delay line (which is seen as the delay elements before the first tap output) through a second delay line (the second and third delay elements) and for delaying the clock signal if the delay locking operation is not achieved in the second delay line, through a third delay line (which is seen as the remaining delay elements). It would have been obvious to one skilled in the art at the time of the invention that the delay line unit of Woodman could be used to replace the delay line of Foss for the advantage of eliminating the delay in locking to the input signal resulting in a faster system (see column 2, lines 27-29). The same applies to claims 3 and 5-6 wherein Foss also discloses in Figure 5 a delay locked loop (DLL) circuit used in a synchronous memory device, comprising: a phase comparing unit (31) for comparing a reference signal (CLK) with a feedback signal (output of 33) and generating a comparison signal; a delay controlling unit (29) for generating a control signal in response to the comparison signal; and a delay model (33) for generating a feedback signal by delaying a clock signal.

In reference to claim 2, Woodman discloses in column 9, lines 10-13 that the first, second, and third delays are connected in series. The same applies to claims 4 and 8.

Conclusion

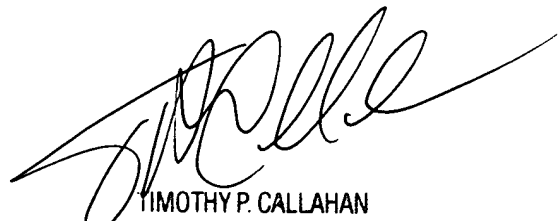
2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cassandra Cox whose telephone number is 571-272-1741. The examiner can normally be reached on Monday-Thursday from 7:00 AM to 4:30 PM and on alternate Fridays from 7:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CC
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August 22, 2005


TIMOTHY P. CALLAHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800